

break.in

A Magazine issued by the New Zealand Association of Radio Transmitters

VOL. V., No. 11.

Christchurch

NOVEMBER, 1932

Special Features

BALLOT RETURNS

THE NEW TUBES

R.E.C. DOINGS

NEWS FROM ALL QUARTERS

XMAS ISSUE OUT DECEMBER 15th.

2L2CY

L. G. FRANCOIS

RICHMOND

(On Page 337)

Mr. Radio Fan
Puzzled. Want the latest?
"Tune in" on these publications at

New Zealand's Own Radio Bookshop

**"H.M. ADMIRALTY WIRELESS HANDBOOK"
 OFFICIAL**

London,
 Dec., 1931.

The Lords Commissioners of the Admiralty have decided that a standard work on Wireless Telegraphy is required for the information and guidance of officers and men of H.M. Fleet; for this purpose the "Admiralty Handbook of Wireless Telegraphy, 1931," has been prepared at H.M. Signal School.

This book supercedes the "Admiralty Handbook of Wireless Telegraphy, 1925."

By Command of Their Lordships,
 (Signed) O. MURRAY,
 Secretary to H.M. Admiralty.

(Just issued and long waited for, over 1,000 pages)

200 Copies Received—Half Already Sold.

Order Yours Now, 9/6, postage 1/-.

(See Editor's review in this issue.)

OUR LOCAL AGENTS: (Inspect local stocks).

Auckland: F. R. Jeffreys, 466 Queen St.
 Christchurch: A. T. Williams, Bookseller, 85 Cashel St. W.
 Dunedin: Duncan & Simpson Ltd., Booksellers.
 Gisborne: C. W. Muir, Bookseller.
 Hamilton: Paul's Book Arcade.
 Hastings: Hall's Bookshop.
 Invercargill: Miss I. Lyon, Bookseller, Dee St.
 Napier: Storkey's Book Shop, Thackeray Street.
 Nelson: Keith Walker, Baird's Buildings.
 New Plymouth: Fyfe's Bookshop.
 Oamaru: J. Miller, Stationer, Tees Street.
 Palmerston North: Borham's Radio Service, 245 Main Street.
 Stratford: Gardner's Book Shop.
 Timaru: J. H. Healey, Bookseller.
 Wanganui: Poynter's Bookshop.

Note.—We are acting as honorary collectors for 2/6 Annual Subs to help keep 2ZW on the air. We will pass on your subs.

ALL RADIO MAGAZINES STOCKED
 PRICES QUOTED INCLUDE POSTAGE.
 WRITE US NOW

TE ARO BOOK DEPOT LTD.

64 COURTENAY PLACE, WELLINGTON

break-in

Official Organ of the New Zealand Association of Radio Transmitters.

Affiliated with I.A.R.U.

Registered for transmission through post as a newspaper.

Headquarters:

BOX 617, CHRISTCHURCH.

President:

D. WILKINSON, ZL2AB.

Vice-Presidents:

H. B. ARTHUR, ZL1AN,
I. O'MEARA, ZL2AC,
N. W. LAUGESSEN, ZL3AS,
N. SHRIMPTON, ZL4AO.

Editor and Technical Advisor:

H. P. V. BROWN, ZL3CG.

Editor-Treasurer:

N. W. LAUGESSEN, ZL3AS.

Assistant Treasurer:

F. L. ROSE, ZL3CZ.

General Secretary:

R. T. STANTON, ZL3AZ.

Assistant Secretary:

R. K. VENABLES, ZL3BZ.

Organisation Department:

L. C. HUNTER, ZL3BJ.

Communications Supervisor:

W. ASHBRIDGE, ZL2GP.

QRA'S and Distribution Manager:

C. PARTON, ZL3CP.

QSL Bureau

G. CLARKSON, ZL3CD.

VOL. V., No. 11.

CHRISTCHURCH, N.Z.

NOVEMBER, 1932.

Editorial

Radio as a means of livelihood offers many attractions for the young man. Apart from being a method for earning a living, it is a fascinating hobby which opens up a very wide field for experimenting and for the acquisition of a fund of knowledge extending over a large number of subjects. In many cases the hobby came first, to be followed by a desire to enter the game for its financial possibilities. Other instances occur where the decision to obtain a thorough grounding in wireless is made much earlier. It is realised by the youth that this course is best and should include a thorough course in electrical engineering. More than likely the head of the house, with a business experience behind him, points out this aspect and is able to provide the funds for a proper training, a university one, for preference. The student who commences in this way is fortunate, for the majority must earn their living and supplement their knowledge by night classes. Whatever system is followed it is advisable to look ahead even if it takes several years to attain the standard aimed at. This is the point we wish to stress—to plan in advance and devote all possible time to studying all branches of electricity and any subjects pertaining to radio engineering. In conclusion, there is one other feature, and a most important one, which requires consideration. This is a training in business methods, for knowledge and skill, without practical application, lose a great deal of their value. Here again the parents will probably be able to offer valuable suggestions as to what course to take.

BALLOT RESULTS.

We, the undersigned Returning Officers for and on behalf of the New Zealand Association of Radio Transmitters, in connection with the Annual Ballot held between 1st October, 1932, and 20th October, 1932, do certify that the ballot resulted as follows:—

President.

N. W. Laugesen (ZL3AS)	200
W. P. Collett (ZL4BP)	147

Vice-Presidents.

(1st District.)

H. B. Arthur (ZL1AN)	51
J. R. Sherson (ZL1AZ)	36

(2nd District.)

I. H. O'Meara (ZL2AC)	Unopposed
-----------------------------	-----------

(3rd District.)

J. Elliott (ZL3CC)	39
W. T. Toon (ZL3CM)	38

(4th District.)

L. R. Stroud (ZL4AP)	Unopposed
----------------------------	-----------

Location of Headquarters.

Dunedin	278
Christchurch	49
Wellington	10
Auckland	9

The Constitution.

For the new Constitution	335
Against the new Constitution	12

Clause 58.

In favour of Clause 58	225
Against Clause 58	120

Class of Membership.

For two classes of members	246
For one class of member	104

Subscription for 1933.

For 7/6 p.a. for all members	209
For 7/6 p.a. for "Members" and 5/- for Associates	70
For 5/- p.a. for all members	61
Total votes cast	2226
Informal	27

The following are hereby declared elected:—

President: N. W. Laugesen.

Vice-Presidents: H. B. Arthur, J. Elliott, I. H. O'Meara, L. R. Stroud.

The foregoing is a correct return of all votes cast in the said ballot.

(Signed)

D. SMITH,
C. HOLMES,
Returning Officers.

22/10/1932.

FOR A.C. S.W. THREE

Tubes '27 4/9, '24A 8/4, '80 6/4,

New Merc. Vap. Rect. 8/4.

Rotary Snap Switches, 1/9.

Tuning Dials, 2/6, 4/6, 12/8.

Power Transformers, 4 valves, now
26/3.

Mansbridge Condensers .01 2/6, 1

mfd. 3/6, 2 mfd. 1000 test 5/-

Mica Condensers, 500 test, 6d.

Carbon Resistors 1 watt, 1/4.

Other useful items—

Imported Stand-off Insulators 1/8

9 Volt "C" Batteries 1/3.

Battery Chargers 22/-, 40/-.

Used Battery Sets, 27/-, 31/6.

Used Speakers 7/8 to 32/-.

All above special nett prices for
hams.

ROYDS-HOWARD CO.
553 COLOMBO ST. CHRISTCHURCH

TRY
QSL **NORM HOPPER** **CARDS**
THE HAM PRINTER
39 DUBLIN STREET
WANGANUI
Send for Price List.

BALLOT JOTTINGS.

It took the Returning Officers five hours to complete the return. Over two thousand votes had to be checked three times, and in the case of one close issue six checks were made.

* * * *

Only one half of the members of N.Z.A.R.T. voted. A good proportion, considering the number of votes cast in previous ballots.

* * * *

There was very divided opinion in regard to Clause 58 of the newly adopted Constitution. It is hoped that this Clause will not be enforced too strictly.

* * * *

The adoption of 7/6 per annum as the annual subscription will put N.Z.A.R.T. on its feet. Members are assured of a better Break In and greater privileges all round.

* * * *

The new Vice Presidents are a solid gang and can be relied on to further N.Z.A.R.T. interests in their respective districts.

* * * *

The new President has been well tried in other Executive offices of N.Z.A.R.T. and says that he will try to make a good job of the Presidency.

* * * *

The Treasurer says that the ballot cost N.Z.A.R.T. nearly £4, and to give every member a copy of the Constitution and Incorporate the Association it will be cheerio to about £15.

* * * *

All matters decided in the ballot will come into force on the first day of January, 1933.

MODERN RADIO EQUIPMENT.

At the recent Eucharistic Conference held in Ireland, Standard Telephones and Cables provided a complete public address system covering several miles of streets as well as a group of speakers to enable many thousands of people to hear every word of the services etc., and to keep in unison with the musical portions.

More recently, when His Majesty, King George, opened the great new bridge—Lambeth Bridge—across the Thames, a most complete arrangement of a "Standard" Public Address System, again installed by S.T. Cables Ltd., was employed for broadcasting the speeches to the enormous crowds lining the banks of the Thames in the vicinity.

Another achievement was a demonstration in conjunction with the Bradford (England) Police. A "Standard" transmitter operated in the Town Hall sent messages to motor-cycle police patrols within a radius of seven miles. A compact receiver, which takes up very little room, fits inside the side-car and as the problem of electrical interference from ignition and also power supply, such as trams, etc., has been successfully overcome, results were perfectly satisfactory. The Home Office inspector as well as numerous other officials were greatly impressed with the value of this method of communication with the patrols, and it is expected that this system will be adopted where possible.

—□—

CHRISTMAS CARDS.

Members are no doubt aware of the particulars regarding the Christmas cards that are being got out by Hqrs. and available to members at 2/6 per 24. Please send in your orders at once so that the matter can be proceeded with in time to catch Xmas mails.

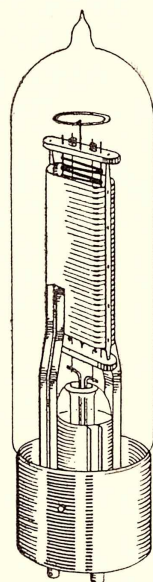
STANDARD TRANSMITTING VALVES

give undeniably Superior Results

Standard Transmitting Valves . . .
(formerly Western Electric) are the
world's standard. Not only do they
give superior results but they last
longer.

CHARACTERISTICS of the No. 4211-D VALVE.

Filament Voltage	10	volts
Filament Current	3	amps
Working Plate Voltage	750	volts
Working Plate Current	65	m.a.
Max. Plate Voltage	1000	volts
Max. Dissipation	65	watts
Working Grid Voltage	30	volts
Amplification Factor	12	
Output as Oscillator	50	watts
Output Power	4.6	watts
Impedance at 65 m.a.	3000	ohms
Gain	38	db.
Expected Life	1000	hours



Write for 12-page informative Booklet to

Standard

Telephones and Cables (A/sia) Limited.

HEAD OFFICE G.P.O. BOX 638, WELLINGTON
AUCKLAND G.P.O. BOX 1897

THE CHRISTMAS ISSUE.

All Branches are urged to have their group photographs taken right away and to send a print along to Hqrs, together with 7/6 toward the cost of the block. This notice also applies to Sections of R.E.C. or other bands of amateurs who have a group photograph that they would like featured in the Xmas issue. The Xmas issue will be printed on 15th December so all matter must be in the Editor's hands by 1st December.

ORDER YOUR EXTRA COPY, IT WILL BE WORTH WHILE KEEPING.

—□—

I.A.R.U. NEWS.

WAC APPLICATIONS.

Advice has been received from the International Radio Union to the effect that as a result of the adoption of Proposal No. 8 Calendar No. 7 of the Union, a new regulation is now in force in regard to the granting of WAC certificates. This regulation states in part:

"Where applicant resides in a country which is represented in the International Radio Union by a member-society, it shall be necessary for him to hold membership in such member-society to be eligible for the award."

As a result of this, all applications for WAC from New Zealand must be accompanied by a certification of membership in the N.Z.A.R.T. Such certification will of course be supplied by Headquarters where necessary.

In future, the I.A.R.U. shall endeavour to conduct all correspondence concerning WAC through the headquarters of the several national member-societies, including both the application for and the delivery of the certificates.

REVIEW.

The Admiralty Handbook of Wireless Telegraphy,

1932 edition, is now available in New Zealand. Containing over 1,000 pages, the book is sold for the surprisingly low price of 9/6. The writer has had the two previous issues, the last being the 1925, and having just over 500 pages. Very great care has been taken in bringing the handbook up-to-date and this accounts for the delay in publication. The type is easy to read and the work freely illustrated. It is the standard for the Navy and it is therefore evident that the subjects dealt with fully cover the technical knowledge which is considered necessary for naval officers and men. This knowledge naturally covers the different methods for transmission, including the old spark system and up to the directional transmission and reception.

Alternating current is a subject which needs to be fully understood and is thoroughly dealt with. In fact, the difficulty is to know what to mention, everything is so carefully explained. Electricity and magnetism, commencing with the electron theory, alternators and generators, the transformer, measuring instruments, the uses of modern valves, radio telephony and measurements of all kinds are not overlooked. The book is the first the writer would suggest for the student of wireless. One has only to glance through the Admiralty Handbook to appreciate its value to the student. It can be procured from the Te Aro Book Depot, or the latter's agents, as advertised in "Break-In."

—□—

A CHRISTMAS TOUR.

ORS. ZL102. Contemplating making a motorcycle trip during the Xmas holidays to Napier via the East Coast, stopping at Tauranga, Gisborne and Wairoa desires to communicate with any ham or S.W.L. from Auckland or Tauranga making this trip. Propose camping en route. Write J. G. Mason, Tuakau.

The Rag Chewers' Club—better known as R.C.C., is a solid branch of N.Z.A.R.T. and has a worthy cause. Click with a R.C.C. member and qualify for membership. It is worth while.

AN INDICTMENT.

The Editors,—

As many of the hams of New Zealand may be aware, I have lately entered the ranks of the benedicts, and upon the occasion of my marriage, I received a message of goodwill from the amateurs of the Second District, which, I think, must stand as a unique document in the world of Amateur Radio. I enclose this (copied) with the request that it be published in "Break-In," as a heart-warmer to all hams, and evidence of the spirit that binds us together. At the same time I wish to convey, through this, the only channel that is readily available, my very sincere and hearty appreciation of the kindly spirit behind this message. The lady OP at 2DG echoes this sentiment with all gratitude, and we both wish all hams and the N.Z.A.R.T. all success and prosperity in this and the years to come.

Yours faithfully,

C. R. H. TAYLOR,
ZL2DG.

—□—
TO WHOM THESE PRESENTS MAY COME
AND TO MR AND MRS CLYDE ROMER
HUGHES TAYLOR OF THE CITY OF
WELINGTON, NEW ZEALAND, GREET-
INGS:

Know ye that some two hundred Amateur Radio Transmitters in the Second Radio District of New Zealand extending from Tophouse Nelson in the South Island to Rotorua in the North send to you both their heartiest congratulations on this your Wedding Day. They express their heartfelt wish that every happiness may attend you in your great adventure and that you may be spared many years in which to enjoy your manifold blessings.

Signed: JOHN KEITH HOOKER,
Secretary Second District Branch of the
New Zealand Association of Radio
Transmitters.

Indicted at Wellington, New Zealand, this
first day of September in the year of Our Lord
one thousand nine hundred and thirty two.

GOD SAVE THE KING.

UNFINANCIAL MEMBERS.

Please note that no further copies of "Break-In" will be forwarded to unfinancial members. Members who are owing subscriptions to Headquarters for the whole or part of 1932 subscriptions are earnestly asked to make a remittance to Headquarters at once.

* * * * *
Members of N.Z.A.R.T. who are WAC should send in their QSL cards to Headquarters together with an application for the certificate.
* * * * *

The Timaru Gang have submitted a copy of their QSL cards to the Editors. The card depicts the whole gang—eleven in all—in shilhouette, all in a line with revolvers in hand. We feel that any person not familiar with radio and seeing the card together with a copy of "Break-In" in someone's possession might easily form the impression that a real live Burglars' Association, replete with an Official Organ is actually in existence! However, Gang, remember that "Crime will out," so make it a welter while your luck is in!

OUR EMPIRE BROADCASTER

Journalists representing London's leading daily newspapers recently examined the 25 kw. Short Wave Empire Broadcaster which was then undergoing final tests, at the Hendon Factory of Standard Telephones and Cables Limited. The journalists present at this demonstration included radio correspondents of the London Times, Daily Mail, Daily Herald and Morning Post. All were greatly impressed by the quality of the transmission. They were able to make the test merely by speaking into an ordinary telephone transmitter, the speech being absorbed in an artificial aerial. A few days after this visit the equipment was delivered to the British Broadcasting Corporation at Daventry, well within the scheduled time. The Daventry building, which is to house it, is practically completed, and all but a few of the eighty masts are in position.

NOTICES.

Mr D. Greenlees (VKQSL) Australia, would be pleased to exchange cards with any Report Station in ZL. If any listeners are interested I will QSP their cards to VKQSL. QRA:—Box 14, New Plymouth.

73. J. A. CARROLL, ZL244.

* * * * *

Any ZL ham wanting a real good DX ragchew look out for W4AGI. He will give you the best DX QSO you ever had and then some.—ZL4CM.

* * * * *

ZL230. Sorry but we shall have to leave your letter until next issue owing to shortage of space.—Eds.

* * * * *

ORS.—ZL238 and 235 write us supporting letters appearing on page 295 of last issue. There is no doubt that ZL hams are becoming very lax at QSL-ing locally. When one man goes to the expense of sending his card and enclosing return postage without getting an acknowledgement "something is wrong with the state of Denmark," and complaints are in order. Please send us a list of hams who don't QSL, we will put their call-signs in cold print. NOTE: We always QSL.—Eds.

* * * * *

Mr F. J. Martin:—Your suggestion of running a Question and Answer column is a good one. We have given prominence to the suggestion elsewhere.—Eds.

—□—

QUESTIONS AND ANSWERS.

Acting on the suggestion of Mr F. Martin of Waipawa, we have decided to set aside a column for the answering of technical questions. The question and answer will be printed provided it is not of such length that too much space would be taken up. We are unable to print circuit diagrams to answer questions so in

those cases the answers will be mailed as has been the practice.—Eds.

ZL1CI. We will feature your technical article in next issue. We are saving space for the Xmas issue. Look for the C.C. article.—Eds.

—□—

LOCAL BRANCH CODE.

ORS 118 assures us that last month's Editorial was OK. We are glad to hear it, and also that at last someone has read the editorial. ORS 118, while accepting our gospel regarding "Amateurs Code," thinks that there is room for an ideal "Local Branch Code" which, he says, strikes hard at the fundamental reasons of club deterioration.—Eds.

Local Branch Code.

De—ORS. 118.

- (1) Don't come to meetings.
- (2) But if you come, come late.
- (3) If the weather doesn't suit you, don't think of coming.
- (4) If you do attend a meeting, find fault with the work of the officers and other members.
- (5) Never accept an office as it is easier to criticise than do things.
- (6) Nevertheless, get sore if you are not appointed to a Committee, but if you are, do not attend the committee meetings.
- (7) If asked by the chairman to give your opinion regarding some important matter, tell him you have nothing to say.—After the meeting tell everyone how things ought to be done.
- (8) Do nothing more than is necessary, but when other members roll up their sleeves and unselfishly use their ability to help matters; howl that the club is run by a clique.

R. G. TOWNSEND,

—ORS. ZL118.

If you like long QSO's and enjoy getting the best out of radio, you should be a member of R.C.C. Get in touch with 2AR for full particulars. He doesn't bite as a rule.

THE ANSWER TO THE HAM'S PRAYER !

The RADIOKES UNIVERSAL TRANSFORMER

Voltages that can be
obtained.

400/C.T./400	full wave
350/C.T./350	" "
300/C.T./300	" "
800	half wave
700	" "
600	" "
575	" "
475	" "
450	" "
400	" "
350	" "
300	" "
250	" "
225	" "
175	" "
125	" "
100	" "
50	" "

FILAMENTS

10 amp. windings.

2½v.—10a.
4v.—10a.
1½v.—10a.

2 amp. windings.

4v.—2a.
5v.—2a.
7½v.—2a.
2½v.—2a.
1v.—2a.

3 amp. windings.

2½v.—3a.
4v.—3a.
7½v.—3a.
5v.—3a.
1½v.—3a.

Price 45/- each—less usual discount to Hams.

Challenge Radio Store

T. & G. BUILDINGS, WELLESLEY STREET, W.
AUCKLAND.

THE LATEST FASHIONS IN RADIO TUBES.

L. W. HURRELL, A.M.I.R.E., Memb.
N.Z.R.I., ZL3BG.

With the ever onward march of radio progress, it is not surprising to find that a series of new tubes has evolved from the laboratory and arrived on the commercial market. It is now literally true that tubes are made for practically every purpose that one can think of, and the end is by no means in sight. These new tubes are more sensitive and flexible than the older types, the improved characteristics giving better circuit control and in some cases greater output.

Types which will be described are: '29, '46, '55, '56, '57, '58, '82, '83, and Wunderlich.

Type '29, a new type of detector tube, used mainly as a second detector in superheterodyne circuits, has a low input impedance, its internal construction consisting of two separate cathodes, each of which has its own grid. A single plate surrounds the entire assembly. The '29 is used in the same manner as in a push-pull amplifier, the two grids connecting to the two ends of the input transformer secondary. The theory of operation is similar to that of the usual audio push-pull circuit. One of the main advantages of this new design is the improved quality output available, which should make it particularly useful for short wave work. The base is a six pin one.

The type number for auto radio use is '69 (6.3v. at .3 amp.) Characteristics are: Ef. = 2.5v., If. = 1.0 amp., Ep. = 180v., Ip. = 4.5 m.a., Eg. = 3v. neg. Amplification factor = 30, plate resistance (Rp.) = 20,700 ohms, mutual conductance (Gm.) = 1,450 micromhos.

Type '46 developed mainly for use as a class "B" amplifier. It is a double grid power valve and is capable of supplying an exceptionally large amount of virtually undistorted

power. The two grids are connected together for "B" class amp. operation. The tube has then such a high amplification factor that negative grid bias is not necessary. The tube uses a medium five pin base and has the following characteristics: As a class "A" with Ep. = 250v., Eg. = 33v. neg., Ip. = 22m.a., load resis. = 6,400 ohms, Imp. = 2350 ohms and power output 1.25 watts. As a class "B" with Ep. = 300 to 400 volts, Eg. = 0-0, Ip. = 4-6m.a., Ip. peak = 150 to 200m.a., load resis. is 1450 ohms, Gm. = 2350 micromhos, amp. factor is 5.6 and the maximum power output (2 valves continuous) is 20 watts.

Type "55," known as a Duplex Diode-Triode, is a combination of a diode rectifier and a triode amplifier. A single cathode, as in the type '27, surrounds the heater. At one end of the cathode are the two diode plates and at the other, the triode grid and plate. The two sets of elements are separated by a mica disc, the connections being brought out to a six pin base, with the control grid to a cap on top of the glass bulb. It is possible to use the tube in many circuits, and offers great possibilities as a full wave detector and amplifier. The action of the tube when used as a full wave detector is much the same as the '80 type rectifier in a "B" power unit, but with no external "B" voltage applied to the diode plates. The auto radio equivalent is type '85 (6.3v. at 0.3 amp.).

Type '56. This is a general purpose valve of the three electrode, indirectly heated type, and is similar in construction to the type '27. It can be used as detector, amplifier, or oscillator. It is smaller in size than the '27, and has smaller heater consumption, higher amplification factor, and mutual conductance. It is not designed to replace any other valve directly.

Type '57, designed as a triple grid detector or amplifier, can be used as an automatic volume control, or low signal input amplifying valve. The extra grid is a suppressor

grid, used in the same manner as that in the penthode, except that in the '57 it is brought out to one of the pins on the base, instead of being connected to the filament as in the '47. The base is therefore a six pin type with the control grid brought out to the cap on top of the glass bulb. This bulb is of peculiar construction, having a dome-like top, and being smaller than the usual S.G. valve envelope. A distinctive feature of the structure is the internal shield which is connected directly to the cathode inside the tube. This shield can be seen inside the dome of the valve, the idea being to give close proximity of the external and internal shields. This tube is particularly suitable for use as a bias detector when the bias should be minus six volts.

Type '58 is a variable mu R.F. penthode. This valve has the advantage of being able to handle large signal voltages without cross modulation or modulation distortion, and is particularly adaptable to R.F. and I.F. stages of circuits using A.V.C. Like the type '57, the suppressor grid is brought out to the base of the valve. The base is a standard six pin type. The tube requires plenty of shielding for efficient operation and has the dome shaped glass envelope with the internal shield as mentioned in connection with the '57, with the control grid cap on top. It is not possible to substitute this valve directly for any other without making the necessary circuit changes.

Type '82: This tube will be of particular interest to those amateurs with low or medium powered xmitters. It is a full wave mercury vapour rectifier, hot cathode type. Its chief advantage is its excellent voltage regulation, and under normal operating conditions the voltage drop is only about 15 volts, which drop remains fairly constant up to its rated maximum plate current. It is preferable to take the full advantage of the tube's possibilities, so a filter circuit of the choke input type should be used. Another important factor is the requirement that the filter condensers in the circuit be of high

break-down voltage to stand up to the high instantaneous peak values delivered across the rectifier. When operating normally, a bluish white glow can be seen between the filaments and the plates due to ionisation of the mercury vapour contained in the tube.

It will be noticed that the filament voltage of the tube is 2.5v. and is therefore not directly interchangeable with other rectifiers. This tube should not be removed from its socket without first switching off the A.C. supply to the apparatus. The maximum A.C. voltage is 500 R.M.S. value per plate and the D.C. output is 125 m.a.

Type '83: To meet the requirements of the class "B" amplifier, this new mercury vapour rectifier has been developed and should be on the New Zealand market very shortly. To use this tube efficiently, the regulation of the power transformer must be as nearly perfect as possible, the gain in voltage by using an '83 in place of an '80 in a standard circuit being very nearly 100 volts. It is similar to the '82 as one of its most important characteristics is the practically constant internal drop of 15 volts from no load to full head. This valve has a great many possibilities and should prove very useful for amateur work. The characteristics are: $E_f = 5$ volts, $I_f = 3$ amps., Max. A.C. voltage per plate is 500v. R.M.S., Max. peak inverse voltage 1400v., Max. D.C. output current 250m.a., Max. peak plate current 800m.a., Base four pin standard.

Several other new tubes have been perfected during the last two or three months but have not been available in New Zealand to any great extent at the time of writing. For instance, there is the type '95 which is a combination of two tubes inside one bulb, representing the equivalent of a type '27 and a type '45. There are no coupling devices needed, this being effected inside the tube.

There are also a few auto radio tubes, mostly of the same characteristics as the standard tubes I have mentioned, with the exception of the heater voltage rating, which in most cases is 6.3 volts at 0.3 amp.

NEW TYPE AIRCRAFT RADIO.

Designed for Imperial Airways'
African Routes.

The first of the new Atalanta monoplanes to be used by Imperial Airways on the trans-African route from Cairo to Cape Town will be fitted with "Standard" radio equipment, specially designed and manufactured for this service by Standard Telephones and Cables Ltd., of Hendon, England. The design chosen for this important order is the result of careful research work by the Company's Aviation Division, and it can be said that for almost the first time in the history of British commercial aviation, these planes will be equipped with radio apparatus that has been specially developed for the particular job for which it is intended. The equipment consists of a combined long and short wave radio transmitter and receiver for telephony, C.W. telegraphy, or I.C.W. telegraphy. It is built in separate units, and can therefore be arranged for either long or short wave working. The short wave transmitter will operate on any wavelength between forty and eighty metres, and the long wave between 500 and 1,500 metres. The weight of the apparatus has been kept down to a minimum, the complete equipment, including aerials and wind driven generator, weighing well under 100 pounds, which is considerably less than any comparable apparatus. Exhaustive tests were carried out by Imperial Airways on the actual route in Africa, during which communicating ranges of 1,500 miles were easily obtained. The equipment was shown to the public for the first time at a special exhibition at Hendon Aerodrome arranged by the Society of British Aircraft Constructors, of which Standard Telephones and Cables is a member. The exhibition was attended by foreign air attaches and many notables in the aviation world. This equipment was christened the "Empire Airway" set.

ANOTHER YL OPERATOR.

How many hams have started from zero and gained their ticket in less than six months? Not very many! Yet that has been done by a YL, Miss Nell Macfarlane, now ZL4CX. She attended the Easter Camp at Waimate, knowing nothing of radio, but the radio bug sneaked up and bit her, and she started to learn the code and swot up the theory. By September 26 she could do 20 words per minute, and knew enough theory to pass the exam. Guess there must be something in the Balclutha air. Yes, she lives in Balclutha, making three YL/ops in that estimable borough. Welcome to our ranks, Nell, and may you make lots of friends over the air.

NOTICE TO CONTRIBUTORS.

In future do not radio your notes as it causes confusion. Contributors must also strictly observe the Editor's rule of having their notes in before 20th of the month. Failure to observe this has resulted in a lot of matter not being published in this issue.—Eds.

*All the Latest Radio
Publications
Obtainable
at*

**SIMPSON & WILLIAMS
LIMITED**

Publishers of Scott's Radio
Handbook, 6th Edition

N.Z.A.R.T. Call Book
" " Log Book

Incorporating the London
Bookstall.

238 HIGH STREET, CH'CH.

Have you enjoyed "BREAK-IN" this year? If so, thank our advertisers because they supported us. We ask you to support them materially by supporting them as they supported us.

NOTES ON FIVE METRE PHONE.

By W. G. Turnbull, ZL2CA.

Very little five metre phone work appears to be done in New Zealand as yet, and the following remarks are offered in the hope that they will help some other fellows to get round some of the snags on this band.

In general, the circuits and constructional work given in QST were followed. See QST July and August, 1931 et seq. Transmitter at this station is PP TNT, using 120 volts on B403's. Practically any modern tubes in push-pull will get down there. 245's work very well, but are higher powered than necessary.

Various tank circuits were tried, the final one having 5 turns of $\frac{1}{16}$ in. tubing on a 1 inch internal diameter, nearly double spaced. QST specifies Cardwell as tuner, but it was found here that a suitable job for this position is the Ormond air-spaced differential with butterfly shaped rotors.

The modulators may be any of the usual types and deep modulation may be used without appreciable distortion and no apparent frequency shift.

Feeding the power to the aerial may be tricky. QST says that a split coil is best, but it was NG here and a two-turn coil was jammed into the centre of the tank coil and worked better than any other method. The aerial feeders consisted of a four foot length of ordinary lighting flex, which fed a half wave aerial at its centre. The exact length of feeders and aerial is very important. A variable grid leak is an excellent proposition and the usual 50,000 variable does nicely. The flashlight bulb in a single turn of wire will show R.F.

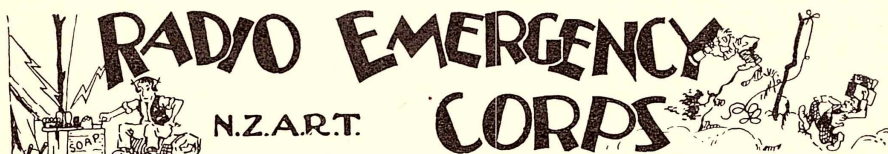
in the same way as on 80 metres and is very handy during testing. Four turns of wire on a four inch diameter in series with a pair of phones and an ordinary B.C. crystal detector is used for a monitor and works very well. Modulation may be seen by connecting a torch bulb across the feeder ends (at the aerial). There is no need to get power inputs of more than about 5 watts as it doesn't get out much further.

The receiver: Here also the general lines laid down by QST were followed but varied slightly in places.

The tuning condenser should of course be controlled remotely. A 3-inch shaft is enough. Tubes are all-important. Direct heated types can be used but unless the incoming signal is very strong, the inevitable mush will limit DX to about a mile or two. Indirect heaters are essential over this distance, and the 37 type with 6 volt D.C. heaters are beautifully quiet. They need not be used in the audio, though.

The interrupter coils are easily wound, and provided they come within about 50 turns of the specified number (1200 and 750) they will work nicely. QST gives full details and can be followed with certainty of success.

The usual receiving aerial may be used. Duplex phone is quite possible without getting outside the band, which seems to be quite large. The receiver handles more easily than the average broadcast set and reaction is not critical. Tuning is not very sharp, but the super-regenerative receiver will only receive C.W. modulated at audio frequencies. Morse is nearly useless, unless buzzer modulation is used.



GOOD WORK.

At 7.55 a.m. on Wednesday, October 26, the Officer Commanding R.E.C. rang the Deputy Section Leader, 2CA, that a plane was reported missing in the hilly country north of Wellington. Accordingly 2CA immediately got in touch with 2CI, Section Leader, who communicated with the Rongotai Aerodrome and was advised that the plane had been located in the hills some miles west of Tawa Flat. 2CA collected the outpost portable station whilst 2CI rang the nearest available operator, 2CD, and appointed him to operate the base station at 2CA's QRA. At 9.15 a.m., 2CI and 2CA, accompanied by two members of the Aero Club, left Wellington and motored out to Tawa Flat, arriving there about 25 minutes later. Having obtained information as to the whereabouts of the plane from the local store, the party drove to the foot of the hills where the car was left. The outpost gear was divided up amongst the party who set off up the hill at high speed. After climbing a few hundred feet the party was met by a man returning from the scene of the disaster. He advised them that they had a long way to go and had better take it more easily. The party immediately acted on this advice and proceeded upwards at a more leisure-

ly pace. After climbing close on a thousand feet the wrecked plane was observed about a mile distant across the hills. At this stage a 120 volt battery was dropped and rolled some hundred feet down into a gully. This important item of course had to be recovered before the party could proceed further. After nearly an hour's hard climbing, the objective was reached, and within five minutes the station ZL2EY had been erected and was on the air. Contacting the base station, ZL2EW, who had been on watch since 9.30 a.m., the Officer Commanding was immediately informed that the outpost station was erected alongside the wrecked plane and in communication with Wellington. At the aerodrome, signals from the outpost were reported QSA4 R6 and from the base QSA5 R8. Contact was maintained until about noon when a final message was sent to the Officer Commanding stating that the station was being dismantled and that the party was returning to Wellington. Although the section was not notified in time to be of any assistance to the Aero Club, it had at least demonstrated that the Section was ready for any emergency call.—W. A. Wilson, Section Leader.

(Special to "Break-In" by telegraph.)

If you are running on 199's or at times resorting to QRP, then you should join the INTERNATIONAL QRP CLUB. I.Q.C. is another branch of N.Z.A.R.T. fast becoming world wide.

RADIO SALE

Lamp House Guarantee

Any goods supplied that are in any way unsuitable may be returned within seven days and your money will be refunded in full.

We pay freight on all orders over £1. Please send sufficient cash for postage on small orders.

Orders executed in rotation

Aerial Rope in 60ft hanks specially treated to withstand the weather over long periods. Usually 3/3 hank. Now 2/6 hank. Fixed Condensers, practically all sizes from .0001 to .002 in assorted makes. All at 7½d each

A.W.A. Variable Condensers, .00015, .00025, .00035, .0005. Usually 7/6 each. Now 5/11 each.

20ft Speaker Extension Cords. Usually 2/9 each. Now 1/11 each

Two tone round Walnut Knobs. Usually 1/- each. Now 6d each.

Kriesler 5-valve Electric Sets in beautiful finish mantel cabinet, complete with valves and Jubilee De Luxe Moving Coil Speaker. Listed at £18. Yours for £13/15/-.

VOLTAGE DIVIDERS. Here's a winner: 15,000 ohm Voltage Dividers, 3/6 each 25,000 do. 4/6 each

British made Speaker Units, completely assembled in 11 inch cone and chassis. Usually 20/-.

Now 10/6 complete. 6 volt 11 plate Radio Batteries in solid cases. Usually 65/- each. Now 35/- each

Muter .00025 Fixed Condensers. 4½d each. Magnus 200 ohm Potentiometers. Usually 4/6.

Now 2/- each.

A Lamp House Sale

Philips 3mfd. Fixed Condensers, 500 volt test. Only a few left at 2/10 each.

De Forest U.Y. 227 Valves. Listed at 10/-.

Yours for 5/-

Assorted Crystals. 1/- dozen

Best British push pull switches. 1/- each.

3 point change over Switches. 1/4 each.

4 point double pole Switches. 1/9 each.

Grid Leaks. Practically all sizes. Usually 1/6.

Now 10½d each.

2, 3 and 6 ohm Rheostats. 6d each.

Brandes 4,000 ohm matched headphones. Usually 10/9.

Now 8/11 pair.

P. & T. Single Phones. 1/6 each.

Red and Black Twin Flex for speaker extensions, etc. 2d yd.

Electric Vibrators, complete with all applicators with which you can soon massage yourself back to health and youth, usually £5/5/-.

Now £3/17/6.

Electric Hair Dryers. A blast of hot or cold air is yours at the touch of a switch. Ladies, no need to wait for the sun for your next hair washing. Usually £5/5/-.

Now 49/6.

Oxford Electric Irons. Six pound weight, heavily nickle plated complete with plug and cord, guaranteed 12 months. Usually 25/-.

Now 13/11

Twin Flex for Electric Light extensions, etc. 3½d per yard

Order Early

Two Light Adaptors, for taking two lights or leads from one socket 1/11 each

Two Light Adaptors with switch. Usually 5/6.

Now 4/6 each.

Hand Lamps for use on electric light extensions in workshops or garages. Usually 8/6.

Now 5/6.

Galvanised Stay Wire. Strong and very flexible. Stranded, in 60ft coils. Usually 1/3 a coil.

Now 11d a coil.

2 Volt Ever Ready 10/20 amp accumulators. Usually 7/- each. Now 5/11 each.

2 Volt Ever Ready 40 amp Accumulators. Usually 12/6 each.

Now 9/11 each

FIFTEEN PER CENT. DISCOUNT

Electric Lamp

Telegrams to "Lamphouse," Wellington.

27 MANNERS STREET

We have Bought Well and Pass on our Good Fortune

7/22 Bare Copper Aerial Wire. 100ft coils. Usually 2/6. Now 1/11½
 Insulated Aerial Wire (50ft). Usually 1/6. Now 1/3 coil.
 4½ Volt Ever Ready "C" Batteries. Usually 2/6. Now 1/11½.
 9 Volt Ever Ready "C" Batteries. Usually 1/8. Now 1/4.
 60 Volt Ever Ready 6 M.A. "B" Batteries. Usually 11/6. Now 8/6.
 60 Volt Ever Ready Heavy Duty "B" Batteries. 10/16 M.A. Usually 19/6 now 15/6
 Ultimate H.F. Chokes for broadcast or short wave sets 1/6 each.
 .00015 Special Short Wave Condensers "Formo." Usually 5/6. Now 4/6.
 Ormond Variable Log type Condensers. .00025, .00015, .0005 Now 4/6 each.

See Our Guarantee

Differential Condensers. Usually 6/- Now 2/9 each.
 .001 Pre-Set Condensers. Usually 2/6. Now 1/6 each.
 8 mfd. Dulytic Electrolytic Condensers. Usually 5/6. Now 4/11 each.
 Ormond Glass Enclosed Detectors. Usually 2/6 each. Now 1/9 each.
 Ormond Disc Drive Vernier Dials. Usually 3/6 each. Now 2/11 each.
 Ormond Vernier Dials. Usually 3/6. Now 2/9 each.
 4 inch Plain Marked Dials. Usually 1/6. Now 11½ each.
 Grid Leaks, all sizes from ¼ to 8 meg. 10½ each.
 Bakelite Lamp or Fuse Holders. Usually 9d each. Now 4½ each.
 Walnut Knobs. Usually 9d ea. Now 5d ea.
 Flexible Lead-in Tubes. Usually 9d. Now 6d each.
 Miniature Wall Plugs and Sockets for Speaker Extensions, etc. Usually 1/- complete. Now 9d complete.
 British made Potentiometers, 5,000 ohm. 10,000 ohm. 25,000 ohm. 50,000 ohm. 100,000 ohm. Usually 6/- each. Now 4/11.
 Manufacturers' Type Valve Sockets, U.X., U.Y. and 6 pin. Now all 3d each.

U.X. Sprung Sockets. Usually 1/6 each. Now 6d each.

Sprung Type Valve Sockets (for English Base Valves). Usually 1/6. Now 6d each.
 British Electric Soldering Irons, medium size 12/6 each. Large size 15/- each.

Philips B & C Battery Eliminators No. 3003, listed at £10/10/-. Sale price £4/19/6.
 Ormond Loud Speaker Units. Large type. Now 12/6 each.

Bakelite Cabinet Loud Speakers. Usually 37/6. Now 25/-.

Ormond Oak Cabinet Loud Speakers. Usually 29/6. Now 24/6.

Manufacturers' Type Power Transformers, 360/350 volts. 5 volts at 2 amps; 2.5 volts at 7 amps. 2.5 volts at 2 amps. 19/6 each.

ARCTURUS AND HYTRON VALVES.

Here's a chance to buy a well-known valve at nearly half the usual price. Types 551, 224, 227, 245, 247, 280, 226, 171A

Now all one price, 7/6 each.
 201A 4/11 each.

TELSEN TRANSFORMERS. Type 351. Ratio 3½ to 1. Usually 7/6. Now 4/11 each.

STROMBERG CARLSON GANGED CONDENSERS. Capacity .00035, shielded and provided with Trimmers. C 1251 2 gang. Usually 19/6. Now 15/6.

C1252, 3 gang. Usually 28/6. Now 24/6.

C1320, 4 gang. Usually 36/-. Now 29/-.

Mail Your Order To-day

MANSBRIDGE TYPE CONDENSERS. These condensers are of a well known English make, and are of 500 volt test type.

.01, Usually 2/3 each. Now 1/6 each.

.04, Usually 2/6 each. Now 1/9 each.

.1, Usually 2/6 each. Now 1/9 each.

.25, Usually 3/- each. Now 2/- each.

.5, Usually 3/- each. Now 2/3 each.

1mfd., Usually 3/- each. Now 2/3 each.

2mfd., Usually 4/3 each. Now 3/- each.

4mfd., Usually 7/6 each. Now 5/6 each.

6mfd., Usually 12/- each. Now 8/- each.

8mfd., Usually 15/- each. Now 10/6 each.

C.R.L. Variable Grid Leaks. Now 6d ea.

NT ON OTHER LINES.

House Ltd.

T, WELLINGTON. C.I.

R.E.C.—Continued.

The most active section is the Taranaki or "M" section who continually carry out tests and experiments under the leadership of Mr Ward, ZL2KV, of Taraki, New Plymouth.

Mr W. A. Wilson, ZL2CI, has been re-transferred to the Wellington section to enable him to take over the duties of Section Leader vice Mr Slade who resigned on account of pressure of business. Under Mr Wilson's leadership the Wellington section has carried out valuable experiments on aërials suitable for field use, and they have decided on the Marconi system as being the most suitable.

The Auckland section state that the MOPA circuit is the best type for field use, and the Dunedin section has decided to experiment with this circuit and compare it with self-excited transmitters.

In this respect, I caution Section Leaders not to lose sight of the main functions of a portable station. Its chief characteristic is compactness and lightness. If a detachment is operating with a mountaineering party, for instance, every little extra weight counts; and a midget Hartley capable of transmitting signals over a short distance with a 45 volt battery for power is all that is required. Operators must remember that in the field they will have a fairly heavy pack to carry as well as radio equipment. The zone station may be a larger set as its function is to work between outpost and base; the accumulator sets which are exhibited in several photographs sent to me as outpost stations could be advantageously used as zone stations, and even base stations.

On the last "field day" sections worked very well, but a perusal of all the Section Leaders' reports indicate that the chief fault was "origination of traffic." The group control stations did not feed the other stations with sufficient traffic to make their work interesting.

Another field day will be held very soon and the previous emergency instructions will stand. The **outpost stations** will be regarded as the **key stations**, i.e., they will originate traffic addressed to their base and other stations in their group.

The following rules will be observed:—

(a) Traffic to and from outpost stations will take precedence over all other traffic. (Except as in (b) and (e) below).

(b) Calls from the command station will be answered immediately and traffic from this station cleared as soon as possible.

(c) Each Section Leader will appoint an officer of his section to originate and reply to traffic at outpost stations.

(d) Messages **MUST** bear the word **practice** as the first text of messages stating some emergency or fictitious action. Messages must also bear a definite address, and not the code letters of sections or stations.

(e) Every 45 minutes groups will cease work and listen for the group control station who will call each station in the group in turn, and ascertain what traffic is on hand and give any instructions necessary for its disposal.

PART 2—COMMUNICATIONS DEPARTMENT. WARNING.

There are a number of stations continually working "off frequency" in the 80 metre band. I strongly advise operators who are in the habit of working near the edges of this band to check frequency before starting up. The sensible operator will heed this warning and check his frequency immediately.

Good marker stations are ZL2AX at the high frequency end of the band, and ZL4CA, ZL3CM and ZL3LX at the lower frequency end.

W. G. ASHBRIDGE,
O.C. Radio Emergency Corps and
Communications Supervisor,
N.Z.A.R.T.

M. DIVISION.

TARANAKI SECTION, R.E.C.

Instructions were received here from the Officer Commanding to hold the test field day on September 25. We were all set as we had arranged a practice day of our own for this Sunday. Mr C. Ambury, 2LQ, is an experienced alpine member and on Saturday afternoon had packed the portable, blankets, etc., on his back and set out on a hike by himself over the ranges to Mt. Egmont. We had arranged to contact at 6 a.m. on Sunday morning, and every two hours afterwards. Six, eight, and ten went by and no sign of the portable, and things were getting serious, as we had no outpost for the afternoon test. An urgent call raised 2LF of Stratford, and with his battery xmitter made an excellent outpost, but it wouldn't "port."

2HQ, 2HR, 2HI and 2DN took over duties for the afternoon, while the rest of the gang listened for a feeble 2EV from the mountain, but not a sound was heard. To make a long story short, 2LQ arrived home OK. It seems he was benighted on the ranges and fell down a bank, portable and all. He couldn't get up so he spent the night there, with water underneath and water on top, but he didn't say what was inside. Hi! Hard luck for Charlie, but better luck next time.

On October 2 all the R.E.C. gang came along to 2KV's to get their "dials" on a photographic plate for Xmas issue of "Break-In." Several plates went into oscillation, but 2HQ's crystal came to light and fixed the job. Hi! A good rag chew followed, and all had a FB time.

It is with regret that owing to Departmental radio duties, that our worthy secretary, Mr L. Birch of 2HI, has had to resign from M Division. 2HI was instrumental in forming the Taranaki section, and he will be missed very much. 73's.

—2KV, Section Leader.

WELLINGTON.

On receiving instructions from the Officer Commanding to hold a test field day on September 25, the following officers were detailed for duty:—Base station: W. A. Wilson, 2CI, S. Perkin, 2GK, K. Hooker, 2DQ; Zone station: W. Turnbull, 2CA; Outpost station: F. A. McNeill, 2CD, B. T. Giles, 2CE, M. D. Mason, 2CJ, K. L. Elliott, 2GJ.

The outpost party left Wellington at 1030 and proceeded per motor bikes to Maori Bank, about 24 miles away, where the station was erected and contact made with 2EW, and message Nr. C2 received, but lost contact soon after. The Zone Station located approximately half way between the Base and Outpost Stations came into the circuit and further traffic was handled through him. The Base using a 210 in a T.P.T.G. circuit with 30 watts input was located at 2CI's shack. No difficulty was experienced contacting Group Stations. The Station was on the air at 1200 and was kept busy until signing off at 1730. At 1600 ZL2EW received instructions from the Officer Commanding to carry out the official broadcast which was carried out at 1610. The bulk of the inward traffic was originated by ZL2EN. The general standard of operating was good and apart from reception being poor from ZL2EY it was quite a successful day.

As the Outpost Station was not considered satisfactory further tests were arranged for the following week-end when 2CA, 2CD and 2LB chased around the Hutt Valley and the Makara Hills skedding 2EW (located at 2GJ's shack) every hour. The outfit at 2EW's was a lone 210 but when the first sked missed 2GJ promptly added a 100 watts amplifier and then his sigs sure came through! Various types of aerials were tried and remarkable success was achieved by leaving the rubber insulated counterpoise lying on the ground

underneath the aerial. Further tests on this point are contemplated. There are now six stations able to go on the 100 meter band at will in Wellington, 2CI, 2CA, 2CD, 2BS, 2CW and 2GJ, with others working up immediately.

73 to the gang.

ZL2CI, Section Leader.

R.E.C. DANCE.

Both 4BY and 4CY are to be complimented on a very successful dance organised by them and held on Tuesday Oct. 18 in the Embassy Saloon. The dance proved a great success both financially and socially, the hall being filled to its limit. A fine programme of dances was in the hands of 4BU and 4BW. Music was supplied by Tom Katz Band with old 4BP pounding the ivory keys and a good job he makes of it too. The local hams were there in full force, amongst those being our worthy RI 4XC and OW, 4AP and OW, 4CL, 4BJ, (4CA was on the loose and seemed to be enjoying himself), 4CK and OW, 4FM and OW. 4CN said he sure enjoyed himself even if he did turn up wearing two left shoes and have to go home to change them. All alone were 4FI, 4CT, 4FT, 4CJ, 4BS, 4BV. Roy had one dance and that was the last. 4BS kept the door company and collected the hoof. A very FB supper was turned on and the very fine evening came to a close at midnight and all there were tired but satisfied and asking when the next was to be. Quite a number hiked it home, so I guess there were a few moans at

rising time next morning. Never mind boys, it was worth it, wasn't it?

Both 4CY and 4BY extend their very hearty thanks to those very willing helpers who helped them in various ways of making the function such a success. So here's to the success of any future functions.

73s—ZL4CJ.

R.E.C. FIELD DAY.

On October 16, 1932, as Otago branch were having a field day and picnic, it was decided that the R.E.C. gang should turn out regardless of weather conditions, and hold a practice and give special regard to antenna experimentation. The site chosen was Ross Creek reservoir, about two miles from town boundary. The location was an ideal one for antenna testing and results as follows:

Base Station ZL4ED (4AC) situated three miles away to the N.E. Outpost Station ZL4EF (the Gang), using 45v. on 605 tube plate in split Colpitts etc. (usual R.E.C. gear), antenna 120 feet 20 bellwire. When pointing to south of 4EF QSA 5R5. When pointing to west of 4EF QSA 5R5. When pointing to East of 4EF QSA 5R6. When pointing to north east 30,000 volt H.T. wires in our way, so not erected. When pointing directly away from receiving station our signals reached QSA 5R7 on det. only, and thus came the eonium, "It would do you chaps good to hear 4EF signals." Break-in work was possible. A successful test was made

***No other trade or profession offers the same
opportunity as Radio.***

SCHOOL OF RADIO

116 PETERBOROUGH STREET, CHRISTCHURCH.

Corner Colombo Street.

Will train you for a better position and guarantees you a Government Certificate.

with insulated antenna lying on ground and when antenna was being moved from point to point signals were readable, but naturally they swing. It was unfortunate we were unable to test with antenna pointing directly toward base but 30,000 volts are risky.

The picnic results were as follows: Shot putting, Section Leader Stroud (a mighty man) 1st, Gault 4FI, 2nd. Distance judging, 4BW 1st, "Marion" 2nd. Marathon event, 4FI 1st, 4BS 2nd. Ladies' race, 4DT. Children's race, Alf Cameron Jnr 1st. Suitable re-handicapping of these competitors will be carried out at Hamfest.

OTAGO SECTION R.E.C.

Taieri Aerodrome was eventually chosen as the site of the K Section Outpost for surprise field day operations on 25th September, 1932. The drome is a long building with two short masts above a tiled roof 180 feet long. Plenty of shelter was thus available from the biting but damp nor-easter.

Equipment was picked up from the clubrooms, and arriving at the Drome at 1130 the antenna was quickly erected (single wire 180ft long) and communication established with Base ZL4ED at noon. Several messages were exchanged and later replies were received from Invercargill and Wellington, the latter message showed that the commanding officer had enthusiastically approved our location and sent a message calculated to have interested the Drome staff. The staff on duty at the outpost were Deputy Leader Harris, Deputy Equipment Supervisor Cameron and Telegraphists Barron, McConnell, Peterson and Winefield, all of whom took an active part in the operations. The receiver played up, but Casey proved himself capable of reading the wail into signals. Timaru and Invercargill sections were heard in operation. The receiver has since received attention. Several of the Gang were very interested in aviation and are secretly

saving up ten bobs for a trip. Our thanks are due to the Otago Aero Club, F.O. Olsen and Engineer Burrbridge.

SLOW MORSE.

The following are schedules of slow morse stations now in operation.

MONDAYS—

ZL1BL: 7.00 to 7.30 p.m. 75 meters.

ZL2GQ: 6.45 p.m. 84 meters.

ZL4FT: 7.30 p.m.

TUESDAYS—

ZL1HT: 7.00 to 7.30 p.m. 77 meters.

ZL2KJ: 9.30 to 10 p.m.

WEDNESDAYS—

ZL1AZ: 7.00 to 7.30 p.m. 78.5 (alternate weeks only).

ZL4FI: 8.00 p.m.

ZL2MD: 8.00 p.m.

THURSDAYS—

ZL1GU: 7.00 to 7.30 p.m. 79.5 meters.

FRIDAYS—

ZL2KI: 6.00 to 7.30 p.m.

ZL4FD: 7.30 p.m.

SATURDAYS—

ZL4FK: 7.30 p.m.

SUNDAYS—

ZL2FQ: 7.00 to 7.30 p.m. 3575 kcs.

Hqrs. wishes to thank all who have volunteered for these services and trusts that those who avail themselves of the sessions will drop a line of appreciation to the stations concerned. Where the frequency of the station is not given, listeners should search over the 80 meter band and the station should soon be located.

NEW ZEALAND CRYSTAL FREQUENCIES.

From C. A. Wight, ZL1CI.

ZL1CA: 3730 kc.	ZL2GD: 3512.5 kc.
ZL1GZ: 3505 kc.	ZL2GJ: 3520 kc.
ZL1HW: 3563 kc.	ZL2MX: 3520 kc.
ZL2AB: 3650 kc.	ZL3CX: 3710 kc.
ZL2AI: 3780 kc.	ZL4CA: 3530 kc.
ZL2DY: 3960 kc.	ZL4CM: 3770 kc.
ZL2FR: 3552 kc.	

Thanks are extended to ZL's 2CP and 2HR for help in obtaining xtal freqs., also to 3DY for promised help.

The number of stations using C.C. is still increasing and the number now is nearly 90, but there does not seem to be much enthusiasm in supplying the frequencies for publication. In fact, some C.C. stations have ignored

my query for their QRH while others have no idea of their frequency at all; and some again have, I'm sure, supplied incorrect QRH's because of incorrect calibration. This last is not the fault of the owner but of the supplier, and I hope in future that the suppliers will sell only xtals with a guaranteed accuracy.

If any C.C. station wishes to communicate with me (ZL1CI) regarding C.C. work, I will be ready for calls on SUNDAYS and will search over the 3500 band directly after the official broadcast of ZL2AX which takes place at 10 p.m. Sundays, on 3975 kc.

I think it would be a very good idea to appoint a reliable official of N.Z.A.R.T. as Official frequency measuring station so that all xtals could be calibrated with the one meter and have exact relative frequencies. Of course the meter would have to be really accurate and I would advocate the use of the electron coupled meter for this work.

Hoping that the number of C.C. stations will reach the 100 mark before the end of the year.

73—C. A. Wight.

—□—

STATIONS HEARD.

Period 3rd September to 8th October, 1932.
80 Metre Fone—

W.1—ID, BES, AVK, DTJ.

W.2—KR, HY, CMH, GO.

W.3—BLZ, AHR, BMS.

W.4—ALO, PW, QZ.

W.5—BFA, BJC, ATC, PP.

W.6—CJQ, CZ, AXQ, AGJ, CNE, DDA, EP, BJQ, AQD, CRS, KY, CX, PFN, CEC, FDM, ELW, FDO, AQK, EUL, DKZ, DKQ, AJR, EZR.

W.7—AQX, AGQ, BZB, IA, AMQ, BGP.

W.8—BXB, CI, CCF, BAD.

W.9—EO, ETT, ETD, GYK, CMZ.

K6BAZ, X5N, VE5EF.

40 Metre C.W.—

XUIU, KA1NA, KA1HR, KA1UP, KA1NF, KA1JR, VS6AE, VS6AG, VS6AB, VS1AB, T13LA, EAR94, EAR233, EAR185, EAR228, G2AK, G6WY, FM4AB, FM8CR, FM8IH, HB9S, OM1CB, NY1AA, VE1CC, OA4AL, SU1EC, VU1AA, PK1VH, HAF3ZZ, CT1BV, CT1KI, X1AX, J3DT, UO8OP, F8NE, ACSNA, ACSZW.

—ZL238 and ZL235.

QRP CLUB NOTES.

"Multum in Parvo."

The latest members are ZL's 2MD, a Hartley man with 3 watts from a Philips eliminator to a PM26; 3GW, 5 watts from a Philips eliminator to a pair of 245 toobs in a PP—TPTG; and 4FT, who pumps 4 watts into a 201A, 4 years old, in a Hartley rig. Power also cums from a Philips eliminator. Also VK's 2GT, 2KR, 3CD and 4NG. This last mentioned ham is a real QRP merchant. He uses 80 volts, point eight of a watt on a TC03/5 and has some FB results—all ZL and VK2, 3, 4, and 5 on fone, ZL1 on CW at 10 a.m., ZL3 at midday and ZL4 at 10.15 a.m.!! Also has worked VK2GI on fone using 14 volts input; VK2KZ and 2CK with 10 volts CW and 2KZ with 5 VOLTS!! Can anybody beat those results? Would like to hear from those who have accomplished real low power DX like this.

VK3HG writes in and says he will have a MG by Xmas, so will be leaving the club and going QRO. Sorry to hear this OM, we all wish you the best of luck on your new venture.

Last month the VK's report QRP sigs weaker than usual; some nights the QRN was R9 and the loudest sigs were R5, sometimes disappearing altogether. Stations heard were ZL's 1CB, CC, CI, 2CF, FE, KM, LQ, 3AP, BC, FE, GL, 4DD and FJ.

Latest idea is to have a relay chain of club members from the first district through to the fourth and see how quickly we can handle club tlc. A similar chain is on the go in VK, not unlike our R.E.C., so what about it, fellows?

2FE has shifted into the country; is trying his hand at cowspanking, and finds it very much different from town life.

The final results of the miles-per-watt contest are: VK's 3NQ, 19,171; 2RH 13,978; 3HG 9,668; 4KZ 6,566; 5MH 4,766. ZL's 3FE 12,000; 2KM 5,000; 2FE 2,736 MPW.

Recently the RI had occasion to ring up a chappie to tell him he was out of the band. This ham thought he was safe, being 120 miles out of the city, and said afterwards what a mug he was—he forgot to ask the RI for a report on his signals. hi.hi.!! 73's to all.

—2FE.

Car Batteries, 6 Volt .	39/6
60 Volt "B" Tapped .	7/2
99 Volt "B" Tapped .	11/3
120 Volt "B" Tapped	13/2.
45 Volt Standard Size	13/5

ROYDS-HOWARD CO.

553 Colombo Street

Christchurch.

Have you ordered your extra Christmas number? It's going to be a great big issue full of photographs and other very interesting matter. Send 6d. to Headquarters now for your copy.



DISTRICT NOTES

AUCKLAND DISTRICT NOTES.

Our meeting held on October 6 was about the most successful yet, as there were more than 55 members and visitors present. It is probable that the talks on Amateur Transmission topics from the local A and B class Broadcast Stations have been the means of reviving old enthusiasm and creating new interest in our hobby. This is a scheme that could, perhaps, be taken advantage of in other centres—broadcast stations always appear to be only too pleased to take advantage of a lecture on the interesting subject of short-wave work, of which the average set-owner has only vague ideas.

Every member should be a booster for our organisation, for, in the coming year, it is hoped that the membership list will show a really substantial increase. No keen short-wave enthusiast can afford NOT to be a member now, as we are New Zealand's largest Radio Association, and thus can offer unique advantages over any similar club or society.

Every member will know of the big Xmas number of Break-In which is planned, and it is hoped that the local gang will give it the support it so richly deserves. The local men and R.E.C. members had photos taken on August 9 for the Xmas issue, and, having seen the proofs, I can say that they were really good. Copies of the photo are obtainable through 1AA—Mr N. Edwards, of Johns, Ltd.

Mr Mickleborough's (1BC) resignation was accepted at the last meeting, and Fred Hawthorne ZL1GX was elected to fill the vacancy in the committee. 1BC has not, of course, resigned from the Association—merely from the committee, as he is very busy with BCL work just now. Incidentally, I understand that his Information Service is still open to members. If there is something about your outfit that puzzles you, write and ask him all about it. Enclose a stamped, self-addressed envelope, and he will either answer it or have it answered.

On Monday, November 7, ZL2GB, accompanied by ZL2CC and ZL2JJ, will arrive in Auckland by the Limited. They are coming up to take delivery of a launch that is being built here, and will take it back to Picton via the East Coast. They want to meet all the local gang they can, so it's up to you to make them welcome, fellows. 2GB is an ex-Navy operator, and O boy, he can handle a key! He will take an 80 metre xmitter with him and contact us as he proceeds down the coast.

ZL1CM would like to register his appreciation of the royal time given him by the Third District men when on his recent visit. Believe me, he can't get over it, and said

he enjoyed himself no end. That's the spirit that keeps us together, OMS, and 1CM and the rest of our fellows will do their best to show their appreciation whenever they receive any visitors from other districts.

And now—

The station contest for the ZL1AA Cup was held on a recent Sunday morning. It consisted of a 'phone, music, and CW test, followed by a station inspection. It is to be held every six months and everyone has a chance of winning it. The winner was ZL1AC, with ZL1GV second. ZL1HA was awarded the prize for the best station in the newcomers' class.

ZL1AA is busy making a bug key, and it's a real workmanlike job. ZL1AB is on 20 metres and gets xtal, etc., from a push-pull job and is chasing Europeans. Congratulations to 1AC for winning the local station contest. He put up a very good performance. ZL1AI is silent. Hw OM? ZL1AN has just shifted shop. ZL1AO has a baby (yes, Austin). ZL1AR—just wait till he starts wobulating that new bug. He is making a new freq. meter—think it is an electron-coupled job. ZL1BA has a low-power xtal outfit. ZL1BC has a beauty big Weston set analyzer in operation now, in addition to his other analyzer, R.F. and T.F. oscillators, etc. Says it works like nobody's business. ZL1BE had a look over 1GV's outfit the other Sunday. ZL1BI threatens to come back on the air. ZL1BP is away on holiday and had a billiard tournament with Ole 1FW. ZL1BR has changed address again, so is not on the air yet. ZL1BY is heard again—worked him t'other night. ZL1CC still busy putting down lawns and planting vegetables. Wants to rebuild, but OW says spuds come first! Hi! Sends his regards to the City gang. ZL1CE has 70 watts of push-pull on 14mc, and stays up all night with it. ZL1CG—I have been told that Bill is back at work again now, after a very serious illness, and that he will soon make a reappearance on the air. ZL1CH happy with his 'phone set. ZL1CM, Mr and Mrs ZL1AA, ZL1HB, ZL1GC, Bob Townsend and his fiancée, and ZL1CR all descended on ZL1GV after the last meeting and had a yarn with 2BE from Bern's 'phone outfit. ZL1CR has a lil O.V.1 receiver and is building a mopa with 245 and 46 tubes. ZL1CW has remodelled his receiver and it works great. Worked a VK the other night, although cobwebs cover his 'mitter. ZL1FX is married now, so we may hear him again. ZL1GV has a little portable that knows what DX means. ZL1GX has a fifty watter on 20, and he skeds with ZL1BTH—the launch "Beth." ZL1HA turning in 'phone and taking to key. ZL1HB is on 80 metres every lunch-

Do you know that every one of our advertisers are reliable established traders? They can give you as good a deal when buying from them as they have given to "Break-In."

time and glad to make daylight tests. ZL1HF—some of the boys were recently favoured with a visit from this popular YL. A general exodus towards Tauranga is now planned. Hi! ZL1HK thinks so much of 'phone that now a key makes him shudder. ZL1HQ been away on a visit to Whangarei. ZL1HY gets out very well on QRP. That's all for now, gang. Please try and help me to get some news of your doings for publication in the Xmas number. My address is ZL1CR, New Lynn, Auckland, S.W.4, and telephone number is 47-910. It only costs a penny to ring or write. Please let me have dope by the 10th November at the very latest.

The local branch hold their meetings on the first Thursday in each month in the Leys Institute, Three Lamps, Ponsonby, at 7.30 p.m. All the gang attend. 73.

—ZL1CR.

(Your notes are excellently put together, OM.—Eds.)

PAPAKURA.

Ham radio very brisk in the country districts; once started in a town the numbers soon increase. Waihi has a ham-to-be in Mr Keith Wrigley, who is very keen, but has no one to learn the code with. ZL1BV busy cleaning up his QSL's—not before time, either. ZL1BY new to ham radio, but an old hand at the key. ZL1CI thinks that the chap who said his sigs had a ripple must have an awful receiver. Yes, he uses A.C. on the plates, Claude. hi. ZL1GJ very consistent with his low power outfit ZL1HC reports that he is too QRL for ham radio

during the week nights. ZL1HD and ZL1CA both striving to rival 1YA. ZL1HR comes on at every opportunity, and overworks the old 245. ZL1HW joined the Railway Correspondence Classes, so will QRT radio next month. ZL1HY dropped his 80 volts of B accumulator on the floor, and now has only 135 volts left, but worked VK when the 80 volts battery was added with the 135. ZL1HZ has been QSO'ing ZL's by the dozen. ZL1IF, Waikuku, has plenty of 1926 QSL's on the walls and will soon be getting some 1932 ones. Guess old 1BE won't win the next liars' contest. This ham says he uses 750 volts to one .201A at 150 mills and QSO's VK. Yes, 1BE second. Hi! Cheerio 73.

—ZL1HW.

HAMILTON BRANCH.

A very pleasant outing was held at Taupiri on the 25th ultimo. We were pleased to have a strong force from Huntly in attendance, and, although the weather was not what it might have been, we were lucky in that the rain held off until just before a start was made for home. 1HN was keen to have a go at climbing the Taupiri Mountain, but the boys didn't like the idea of carrying the "B" blocks up.

At our last meeting Mr Bert Andrews convinced a somewhat sceptical audience of the possibility of lighting an ordinary 230 volt lamp off the human body. Try it, if you don't believe it can be done. Modus operandi: Hold the bulb by the brass cap and rub the glass portion rapidly up and down the forearm (on the coat sleeve) for some minutes. Then turn the arm so that the

PANELS

16g. Alum. 18g. Alum.

12 x 7 .. 2/3 .. 1/6

16 x 7 .. 3/3 .. 2/3

18 x 7 .. 3/6 .. 2/6

21 x 7 .. 4/3 .. 3/3

CHASSIS

16g. Alum. 18g. Alum.

12x7x2 .. 5/6 .. 4/-

16x7x2 .. 6/- .. 4/6

18x9x2 .. 7/- .. 5/6

21x9x2 .. 8/- .. 6/6

Panels Frosted 1/- extra.

14g., 16g., 18g., Aluminium Sheets in stock. All sizes of Chassis, Panels and Cabinets made to order.

CALVERT'S LTD.

138 TUAM STREET

CHRISTCHURCH

PHONE 31-398

palm is forward and rub the bulb along the nerve which runs down the centre of the arm, lifting the bulb off at the end of each down stroke. Persevere, and you'll be surprised at the glow you can get. You'll want the lights out, of course. Our club room looked like a seance chamber for a while, while the boys were trying themselves out. I think some of them had visions of cheap H.T. supply. Hi!

Our latest converts to MOPA are 1BL and 1AZ, both putting out a good sig., too. 1HT is doing good work with a 12-watt fone outfit, getting R7 in Melbourne on 80. 1GU has his receiver in bits. 1BW, where? 1HO on again with HPTG, the world's best station according to Alf. Haven't heard 1FP on lately, but as he runs 1ZH he has his hands full. 1AZ is the lighting expert in connection with "The Belle of New York," and is making a good job of it. 73. ZL1GU.

TE AWAMUTU.

The Te Awamutu gang have not been taking up more than their share of the ether. IAP and IAT again appear dormant. 1CF keeping a weekly sked. 1CB has been busy and heard on sked. Intends dying in an attempt to put out first-class fone (funeral notice later). Any method of instilling some of the old vigour into our pioneers will be gladly welcomed. 73. 1CB's Ow!

December issue will be published on December 15th, and will reach you just before you leave for the Convention at Dunedin.

GISBORNE.

We once more take pen and paper and make an effort to let readers of "Break-In" know what has been doing since the last batch of "Local Lies" appeared in the good old mag.

The latest craze among the local lads seems to be a fever for making microphones, and 2AE, 2AC and 2AD are dabbling with the famous "Reice Microphone." 2AE's licks the best condenser mike made. At least, so we are told.

It looks as though one of the "Old Originals" is on the verge of going wrong—we might almost say that one of our old hams is going to desert the ranks. Basil ZL2GD told us with many heart patters and blood throbs that he is going to get married, and that the happy event is to take place in January next—and, wonder of wonders, he is going all the way to Sydney to do the deed, so what a time the VK2's will have—that is if 2GD has time to look them up, which we doubt. Hi! We wish him all the best of luck, and hope that his double harness won't keep him off the air.

All of the local members have been wearing mourning lately, because of the irreparable loss of one of the most active and best liked hams ever reared in Gisborne. We refer to Frank Hunt ZL2GQ, who has been transferred to Napier. Frank was a great asset to the local branch, and besides being one of the best of chaps, he was always only too pleased to help anyone with radio troubles. He will be sadly missed by all—but what is

Gisborne's loss is Napier's gain, and we wish him all the very best in his new sphere.

ZL2DM and ZL2DW, Lance-Corporal and Private respectively, now boast having passed the Army Signalling exam., and are now both holders of the "Flags."

ZL2DX wasn't able to go to the camp, and missed getting his "Flags." Perhaps he would have missed them anyhow!

George Butler 2FA has been big game hunting on 40 and reports FB results.

ZL2FB makes a big noise on 80. He's a car salesman. And doesn't he do his stuff—we'll say.

ZL2FE is a mixture of farmer and grocer these days—when he gets sick of farming he takes on the grocery business to ease the monotony.

ZL2FD, Harold Shelton, threatens to stage a come-back when the weather lets up—what the weather has to do with it we don't know. Cliff Hands, of 2FF and 2ZJ fame, is on SW spasmodically, being very QRW with his broadcast outfit. Charlie Banks, of ZL2ML hasn't passed the test stage yet, but look-out when he lets loose. Cheerio 73. ZL2DX.

TARANAKI NOTES.

Not much to say this month, as the writer very QRL.

The gang all collected at 2KV's two weeks ago for the special purpose of spoiling some perfectly good plates, the results of which will be seen cluttering up one of the pages of the December "Break-In." Many thanks to Bill and family for the fine hospitality shown to the gang.

Our local division of the R.E.C. now going in full swing and practises every week. The outpost was taken up on to Mount Egmont to a height of 5000 ft. and was heard outside very satisfactorily.

Our next R.E.C. meeting in a few weeks, boys. 2AM not heard yet. 2CB been very QRL. BCL sets is not heard on the ether much; shake her up, Fred.

2DN says ragchewing with the Froggies is great. He has been hrd on 8T quite a bit lately, so the DX can't be too good yet? 2HI has our local P. and T. Station op., and between Department skeds and other things is kept QRL.

2HQ still got the xtal and wonders why 2BE has parked right on his xtal frequency; says 2BE better look out for QRO. 2HR Arthur not had much here, but still going for his life on the high frequencies.

2JH lost.

2KE also lost. Want of power.

2KV: Bill been having a great time, between entertaining hams, running a picture show, and BCL's and farm is just abt wore out with running round. Still finds time to ragchew over the air quite frequently.

2LD not heard much. Still putting out punk fone and sez it gets good repts. But? ? Hi!!

2LF doing his stuff with two watts on 4T. Although Bill not working many G's, he is having a whole lot of fun.

2LQ still here.

Till next month QRV. Vy. 73. ZL2LQ.

WANGANUI BRANCH NOTES.

The branch carried out a programme of spring cleaning at the October monthly meet-

ing. For the greater part of the evening the cobwebs and spiders had a torrid time, so definite results should soon be forthcoming. We extend congratulations to Mr F. E. Wickins on the gaining of his ticket. Frank is now on the air with the call of ZL2MW. 2CT has departed for the capital. What will it be now, Jack, "The Voice of Windy Wellington"? Hi! 2MO created quite a sensation when he reported having got R6 from a VK on his QRP outfit using loop. 2MP gets his fone out; if you hear a mandolin in the ofing, well—that's Dick. 2BY slung up a half wave sky wire recently and startled the natives from 5 to 600 m. All QSO's are now conducted with one eye on the door. Hard luck, Chas.! 2GH seems to have fallen into the limbo of forgotten things lately. What's the reason, Norm.? 2AR is at present down south. 2KN is as keen as ever. The best of DX and 73. ZL258.

MANAWATU.

Local lads are de-cobwebbing their junk in preparation for the forthcoming N.Z.A.R.T. week that is being thrown in an endeavour to swell the membership and exchequer. Parents are requested to pay the sub for the family hope, and we do the rest. 2AP works on all bands. 2JC works VK on fone. 2KC on fone up in the hills. 2KB bought a mike. Ben Bennett having P. and T. exams. 2KQ going grey trying DX on 40. 2MS going great guns. Barney and Sam going for their Morse test. Two others from Palmerston N. sat for their theory, but results not yet known. Come on, you other hams in the district—throw in your weight to help things along. 73. 2KQ.

LEVIN NOTES.

ZL2DS going well on 80 and 40. Was heard working France recently. ZL2GN waiting arrival of 50-watter for c.c. outfit. 2GN's father passed away recently and all the gang join in expressing their sincere sympathy in his loss. 2GW's latest is a 3 stage MOPA which has a 210 for 7 m.c. Osc. 210 buffer and 2-210's is p.p. as P.A. 73. 2GW.

WELLINGTON.

2AJ is chasing DX and keeping his two "gennies" warm. 2AZ is preparing to stage a "come-back," using an 852. 2BC will be on again xtal after Varsity exams. He will be putting in an appearance at Dunedin at Xmas. 2BG reports little doing on his favourite band—20. 2BH stirs up the ether on 40 metres. No sign of 2BI yet. 2BS reports little. Preparing for rebuilding. 2CA has a 5-meter 'phone permit and has had a real QSO on that band. 2CE is pulling his weight in the R.E.C. 2CI getting tired of perpetual DX and is getting a receiver on 5 metres. 2CJ is building a new R.E.C. portable, mopa this time. 2CP is putting in 210's. 2CW has junior up; congrats, OM. 2CX has a live portable on 80 metres. 2DB is wearing that worried look and has forgotten what Morse sounds like. 2DG expects to get on the air in new QRA as soon as the Power Board sees reason. 2DL busy planning QRP outfits. 2DP turns up at meeting once again. 2DQ is a busy man. He runs the local branch N.Z.A.R.T., Wellington R.E.C., designs ham trannies and puts in time at the office as well! 2FL says things are only fair. 2FP

on 40. 2FR mourns the untimely demise of a pair of 281's. 2FT has practically decided to change 2ZW into a ham outfit! 2GJ built a 100 metre outfit, with as many watts in the aerial. 2GK back on the air. 2GM dead or buried, or what. OM? 2GP QRL with work and swot. 2HA is working VK6's on 80 metres. 2HB thinks 40 metres is NG just now. 2HU is rebuilding into 100 watt xtal Mopa. 2JF having great fun, working 80 metre DX. 2JI on 80 metre phone. Good stuff, OM. 2LB tried 20 metres and found it excellent. 2LN enjoying himself with 80 metre phone. 2LX has C.C. 2MI is on 40 metres. 2MJ on 80 metres consistently. Tries phone at times with 2MY, who is known to SWL's as Mr F. W. Sellers, of Northland. Congratulations, 2MY!

Will all the Wellington hams not mentioned above please note that I am thinking hard thoughts of them for not letting me know what is doing. 73. 2CD.

NELSON BRANCH.

Formation.

A meeting of members of N.Z.A.R.T. and others interested in the Association was held in the rooms of Mr C. S. Munroe (2LI) on 21st September, when it was decided to form a local branch of N.Z.A.R.T. Mr A. H. Buchanan (2HD) was voted to the chair, and the following officers were elected:—President, A. H. Buchanan; vice-president, A. A. Knight ZL2FI; sec.-treasurer, M. Maginnity ZL2JO; committee, C. S. Munroe (2LI), R. C. Sharland (2LH), P. D. Hight (2MA), and A. G. Gould (2KF).

It was decided to hold general meetings on the second Wednesday of each month, and a weekly meeting for the encouragement of beginners. The branch is very fortunate in having the free use of rooms kindly lent by Mr Munroe. It is hoped to build a club transmitter and to form a section of the R.E.C.

(Headquarters is glad to hear of the formation of this Branch, which makes NINE new branches formed during 1932!)

MARLBOROUGH.

Marlborough hams have nothing exceptional to report this month, except that we have an addition to the ham family in I. R. Wintringham, who passed with a very comfortable margin between him and failure. Another addition is to be expected after the next examinations, in the person of Mr Alex Rielly of Seddon. Best wishes, Alex, OB. The Picton gang, ZL2CC, ZL2GB and ZL2KL, and also ZL2JJ of Wellington, are going on a little trip on about November 10, in a launch. The transmitter is to be a Hartley, and the antenna will be a Marconi. ZL2DO was heard and worked lately. Hams heard this month in Blenheim are ZL2GZ, ZL2LU, ZL2DO, es ZL2KS. We are promised a treat by the addition to the happy family by the expected arrival of Les Copp, of ZL3AM, who is to take over the managanship of a large business here. Congrats, Les, OM, es also let's hope you make uself at home when you get here.

ZL2GZ, ZL2DO and ZL2LU are still doing wonders in QRP, especially ZL2LU, who has a maximum input power of .12 of a watt, until he gets new batteries. Vy fb chaps. ZL2LG has a large MOPA outfit in the

NOTE. See also page 340 at back of booklet, for newly licensed hams

course of erection, es judging by its dimensions Blenheim will be put on the map.

Any hams wishing to go up for the 40 metre permit in Blenheim, kindly communicate with me, as I have the necessary forms for filling in. 73 fm ZL2KS.

RANGIORA.

Look out for Rangiora gang on 10 metres on Sundays. Nothing doing on 20m. and 10m. 2AJ tried a new antenna system and clicked G, then proceeded to work all those odd letters you see but never hear. 3DW keeps the OM up to his 3.30 a.m. skeds, but can't pile up the QSO's when the OM has the DX fever so bad. 3FW, our portable king, is not yet ready to take off, as he is looking for a cheap packhorse and a good-hearted ham to hold the antenna, as there are no trees. 3DT seems retired—remember what Nelson said, Jim. 3DY blew a charger to pieces and has a flat battery; also, by the way, the xmtr won't go, so gess it's cul.—73. ZL3DY.

WEST COAST.

3AA's Austin Seven takes up all his spare time. 3AG has not been heard much lately. 3AX still continues to wreck 280's. 3BO had the misfortune to frizzle his xtal. 3BU must have let the cobwebs take charge. 3BV is frequently heard on fone. He left the window open and some Coast dew got to the works. 3CW hard at it on B.C.B., but we hope to hear him on 80 soon; come on with those PP 50 wattars. 3DD recently made his debut on 40. 3DH works fb duplex with 3GG. 3FN gets on the air sometimes when

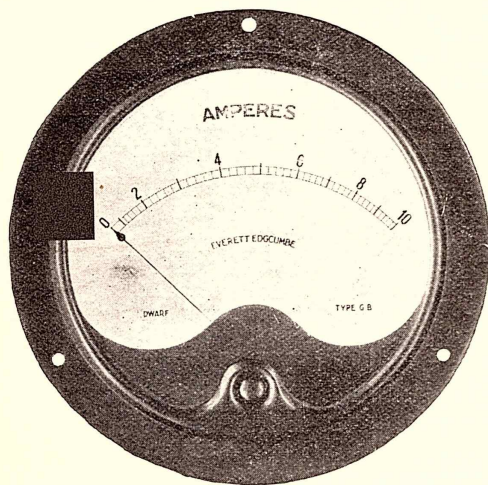
not swotting class B. 3FU ex 2AG is now in these parts; here's hoping he soon gets going. 3FX is still in VK. 3GG talks about QRO. 3GB going strong with TPTG with 2 rat power. Rumour has it that he was seen climbing his antenna early one morning with a handful of salt. 3GC works fone and C.W. on 245's. 3GT, the latest arrival to West Coast hamdom, is a fb whispering baritone. Hokitika is becoming a QRM factory now. The fortnightly branch meetings here are proving very interesting. The gang are "gone" on class B modulation. 3CW got busy with chalk and sketched a circuit on the floor, which substituted the blackboard. As the circuit grew the boys shifted back until they were almost out of the building.—73. 3DH and FN.

CANTERBURY.

3BK has built a new 4 tube receiver, and is building a crystal controlled transmitter, using '47 oscillator, '46 buffer and two 46's in push-pull as the power amplifier. 3BF has gone back to his old QRA, Cobham St., Spreydon. 3BJ is going C.C. and is busy reading up the business. 3CE is temporarily giving 56mc. a rest, and proposes to try 14mc. Or so he says. 3CF has been getting out well with QRP, showing what an intelligently handled set can do. 3CG has been altering his portable outfit. 3CN is grinding a xtal, which refuses to shimmy. 3CT is back in town, lusting for DX. Have you got a filter, Roy?

NORTH OTAGO.

4CM: QRM QRN QRL. Has now a third



EVERETT EDGECCUMBE METERS

are British Made.

Milliammeters and
Ammeters from
47/6

Voltmeters, 250 and
1000 ohms per volt.
Stalloy Stampings
and Strips.

A. E. STRANGE

404 WORCESTER ST.
CHRISTCHURCH

operator to keep the second busy. Had a look round Dunedin shacks recently and is quite keen on forming Oamaru Branch. 4CO has 20/40 ticket now but his antenna has too much punch toward VK, so he will have to alter direction for DX QSO. 4DG is being rebuilt MOPA. 4BL: Nell has gone native; at least she has gone to the South Sea Islands. 4DM, being a dentist, takes a delight in pulling things apart then doing some remodelling in much the same way as 4FK. 4DP and 4DD of Kurow fame, have now ultra HF permits. The former after four years' ham radio, is just as curious as ever to see how things go—yes, it's a lasting hobby. OM. 4DD is a member of the Dunedin Phone Circle and comes in well in Dunedin. There are several budding hams in Oamaru now, and when a couple more get tickets a Branch will be formed and thus belie the adage, "Oamaru sleeps silently away."

(Contributed).

FOURTH DISTRICT NOTES.

By ZL4CJ.

The attendance at the weekly lectures are still good which goes to show the chaps here are still as keen as ever on gaining fresh knowledge of this game, though I am sorry to have to say that there are quite a few of our local hams who are not as active on the air as they might be. It may be because we have had a dash of warmer wx and has driven the boys outside. Is that so, boys, or is it because things have been so bad on the 3.5mc. band during the last month with QRN bursting in from R6 to R max.? Terrible stuff that. The only good DX that can be reported on that band during last month was a W6 who was hooked by 4BP on his first night on after a spell at rebuilding xmitter and receiver. 4CA been doing the round of shacks to get dope for the Xmas number of "Break-In." Since then he has broke loose with C.C. Who has gone shy of one xtal Casey? Hi! 4BV has managed to get started up once again using a 110 volt primary with a 100 watt lamp in series. 4FT still pushing out a good QRP sig, but doesn't seem to be able to raise other than ZL's. 4FM managed to get started for the first time using QRP 201A's in PP, but with no great success. A correction is to be made on last month's notes which should have read 4FM not 4FC, with apologies to 4FC. Not knowing or having heard 4FC, I cannot comment on his activities, DX or otherwise. 4FK very active on CW till 10 p.m., then on goes the fone rig. His biggest objection to C.C. is that B.C.L.'s with crystal sets keep him off fone during B.C. After a spell 4CW is active again and has also built himself an A.C. receiver. 4BA is to be heard on some very good fone from his C.C. rig. His QRO Hartley is also kept busy on 40. 4BQ is to be heard also using C.C. and Hartley on both bands. He can also boast of a sec op with his own ticket now, but no call yet. 4CK has broke loose with some new type of fone, Heising principle, and is willing to borrow any electrical recordings. Some DX on 40 has come his way—a J and FU. 4BS, try as he might, cannot raise W yet; has been QSO with G three times. 4BU one night got the craze to start up again, so rushed home to fix things, but so far nothing has been heard from him. 4FO, our latest ham, started up next day after gaining his ticket, using

a 245 in Hartley with 26 watts input and soon raised all ZL and VK2 and 3. Having a pilot's licence, he is going to pilot the plane during some 58mc. test which will be coming off shortly. 4BO been doing a lot of testing, using self-excited osc, real P.D.C. and plenty of punch. 4FI is preparing for a real he-man station; has built an electron coupled wave meter, a 58mc. xmitter which sure looks the goods, and is now working on a real receiver, using the new R.F. pentode. The three stage C.C. xmitter only awaits the xtal. 4CS is too QRL on B.C. band for ham work; he is now op at 4ZW. Say, Val, don't forget to thank 4FI for the condenser mike and 4CJ for the 852's. Hi! hi! 4CF started to rebuild and managed to tip the car over during a pleasure trip to Waiporia, so boys, don't think he got that mark on his forehead for taking another chap's YL. 4CN seems to be getting keen on dancing now. This makes QRU now, lads. Sorry I couldn't visit a couple more shacks for a write up, but am in the midst of a QSY up the hill going back to Mornington to stir up the Hill gang. Hi! So cheerio. 73's till next month.—ZL4CJ.

SOUTHLAND BRANCH, N.Z.A.R.T.

4FG has practically finished papering the walls of his shack with QSL's and has been very quiet of late pending the extension of his walls. He is on the look out for someone who wants to rid himself of 250 water valve for a B.C. set. 4AD is busy with mope's and high power phone; of course this is com-

A Worthwhile Career!

This is your chance—The Radio profession is offering today jobs that other professions can never in this age equal. Wander if you will as an operator, or stay in town as an engineer, but always you will have behind you that supreme personal insurance — a worthwhile profession. Write to or call and see our Principal, Mr E. C. Johnson, A.M.I.R.E., and receive his personal advice.

JOHNSON'S WIRELESS AND RADIO SCHOOL

8-10 BRANDON ST., WELLINGTON

fidential. His OW can only get a peep of the room through the keyhole—some day when she finds the key there will be a real dust up. Congratulations to him on his 40 metre DX with a G. 4CG is very quiet of late, although he has recently been QRL with rebuilding of the zone station for local R.E.C. 4CH will not be heard for some time from his own location, and to prevent his morse going rusty, he visits local hams and pounds brass at about 35 per—haps. 4DZ: Again rumour has it geologically inclined and is at present busy studying crystals in their natural form; just now his frequency on the air varies, sometimes not on for a week, other times never off. I believe he is at the present time contemplating presenting local hams with decent receivers. Congratulations to 4DL on getting his pilot's certificate. Now that is over, perhaps we will hear him on the air as well as seeing him up in it. 4FE still puts a good sig into Invarcargill and the local gang intend to pay him a surprise visit to see how he does it. Les. Nichol should soon be on the atmos now and will be a welcome addition to the locals. 4FH is heard frequently on the air, but the local boys see little of him. By no means the least important of the local gang are the non-transmitting members of the Branch, all of whom we hope shortly to see on the air.—R.H.P.

BRITISH NOTES.

By J. Clarricoats, G6CL, Honorary Secretary,
R.S.G.B. and B.E.R.U.
August, 1932.

The outstanding event to be recorded this

month centres around the formation of a Royal Naval Wireless Auxiliary Reserve. The Reserve will be drawn from those who are interested in the art of wireless communication, and it is expected that the vast majority will be members of the R.S.G.B.

The Reserve will be divided into areas, districts, sections and units. The units will consist of ten members of the Reserve, five of whom will possess some transmitting facilities.

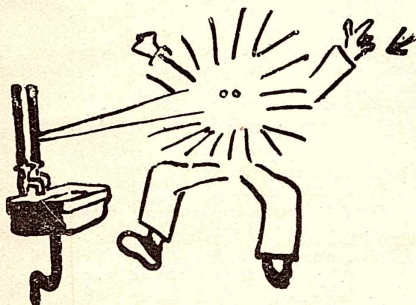
The response to date has been even more enthusiastic than we anticipated, and there is every indication that the Reserve will be in full operation within the London districts during October.

At the Seventh Convention Capt. Murray, Director of Signals Department, Admiralty, addressed the members and gave a clear explanation of its objects, which briefly are intended to provide a reserve of trained operators for Naval service in time of war. It is hoped eventually to extend the scope of the Reserve into other parts of the British Empire.

The Seventh Convention proved even more successful than its predecessors. The proceedings opened on Friday, August 26, when a lecture was delivered by Mr C. F. Booth, of the G.P.O. Radio Section, on the subject, "Measurement of Frequency."

On the following day a delegates' meeting was held when all English districts were represented. Many important decisions were reached, including the arrangements for future Society tests. The business meeting followed during which the Society awards

BARGAINS THAT SMACK YOU IN THE EYE



Uncle Bill has gone and done it again. Fact is, it's his birthday—Eighty-four to-day—and he celebrates with these bargains.

.00015 var. condensers . 3/-
2-gang Shielded .00035 Condensers . 15/-
3-gang .00035 condenser 19/6
770 volt C.T. Trannys. All
Filaments. 18/6. Guaranteed 12 months.

Single Button Mikes, complete with Transformer, Gain Control, Battery and Switch. As used by ZL3CH and ZL3DZ. £3 less one-third.

Birthday greetings to Uncle Bill,
The man who makes high prices ill.
He's the chap who knows the dinkum oil,
So send your troubles to Old Bill Moyle.

McKnight

RADIO SHACK

CH3DZ

REGENT STREET

Moyle

CHRISTCHURCH

for the year were presented.

The Convention concluded with a dinner at which nearly 150 members were present. It is hoped to give more details of the Convention meetings in our next notes.

TAKAPAU RADIO SOCIETY AND DISTRICT NOTES.

The above Society was formed four months ago and now has 19 members. Officers elected:—President, Mr. S. Stevens; Vice-President, Mr. C. Pease; Secretary, Mr. G. Achell; Librarian, Mr. P. May, ZL2HP. Meetings on the first Friday in the month, well attended and kept interesting by FB lectures. Periodical magazines circulated among Club members. ZL2HP and Mr. Pease conduct weekly CW class and ZL2MD sends slow morse every Wednesday at 8 p.m. One member has just passed the R.I. and is waiting for a call. Congrats, OM. ZL2AN waiting for 230 A.C. power supply. 2CZ using 245's in PP TNT with 22 watts input and has report from Russia. 2CZ also reports three budding hams. 2HP swoiting for Radio Serviceman's Exam. Best luck, OM. Built a Hartley portable but has not tried it yet. Those super "B's" run down when not used, Phil. 2MD goes on the air when power leak allows. Going QRO soon. Mr. Wiggins back in Waipukurau. How about some news, OM? 73.—ZL2MD.

ASSISTANT TREASURER:

F. L. Rose, ZL3CZ.

CORRESPONDENCE.

All members are specially requested to avoid addressing correspondence in the personal form. This causes confusion, so in future address letters to H.Q. as follows—"Treasurer," "Secretary," Editors," etc.

STOCKS AT HEADQUARTERS

Items You Need

Log Books (a real necessity) 1/6
Official Call Books 1/-
Badges (identify yourself) 2/6
Message Forms (per 100) . 1/6
Stickers (a real decoration)
per 100 1/6

The Address is:—

HEADQUARTERS

Box 617

Christchurch

**Help Your Association
and Yourself !**

NEW AND AMENDED QRA's.

Amended	ZL1HG	.....	A. R. St. Clair, 28 Cheitenham Rd., Devonport, Auckland.
	ZL2AF	.....	J. B. Sutton, 441 Palmerston Rd., Gisborne.
	2AL	.....	J. B. Chew, 45 Apuka St., Brooklyn, Wellington, S.W.1.
	2DX	.....	N. C. Fitzgerald, 281 Gladstone Rd., Gisborne.
	2CZ	.....	A. E. Ireland, Carr St., Ormondville.
New	2FG	.....	A. G. St. John, "Invernay," Collingwood St., Nelson.
	2FH	.....	T. M. Fitzgerald, Nolan Rd., Hawera.
	2HY	.....	S. R. Anstice, "Marriott, Seymour Ave., Nelson.
	2MJ	.....	A. J. Whiteley, 14 Creswick Tce., Northland, Wellington.
	2MK	.....	J. A. Adams, 99 Trafalgar St., Nelson.
	2MM	.....	H. F. Adcock, 39 Opaki St., Masterton.
	2MN	.....	L. E. Pole, 206 Queen St., Masterton.
	2MY	.....	F. W. Sellens, 7 Randwick Rd., Northland, Wellington.
	2MZ	.....	C. R. Castles, c/o. Shed & Griffith, Hardy St., Nelson.
	ZL3BF	.....	E. Prince, 76 Cobham St., Spreydon, Christchurch.
	3FU	.....	S. W. S. Strong, Kilgour Rd., Greymouth.
	3GB	.....	W. A. Rowe, Stafford St., Hokitika.
	3GO	.....	E. B. Lough, 414 Hereford St., Christchurch.
	3GQ	.....	F. Gee, 8 College Rd., Timaru.
	3GZ	.....	A. E. Berry, Marlborough St., Linwood, Christchurch.
	ZL4AI	.....	G. G. Samson, Norfolk St., St. Clair, Dunedin.
	4BG	.....	W. G. Baird, Selwyn St., N.E. Valley, Dunedin.
	4CX	.....	Miss Nell Macfarlane, c/o. Box 15, Balclutha.
	4FM	.....	F. Shave, 67 Cannington Rd., Maori Hill, Dunedin.
	4FO	.....	S. Hudson, 30 Tweed St., Roslyn, Dunedin.
	4FP	.....	K. Parker, 38 Walter St., Dunedin.
	4XD	.....	Otago Branch, N.Z.A.R.T., 3 Stafford St., Dunedin.
	4XC	.....	F. J. O'Grady, Telegraph Dept., Dunedin.
	4CJ	.....	H. Jupp, 36 Pitcairne St., Mornington, Dunedin.
	2NE	.....	M. Hart, 213 Broadway Ave., Palmerston North.

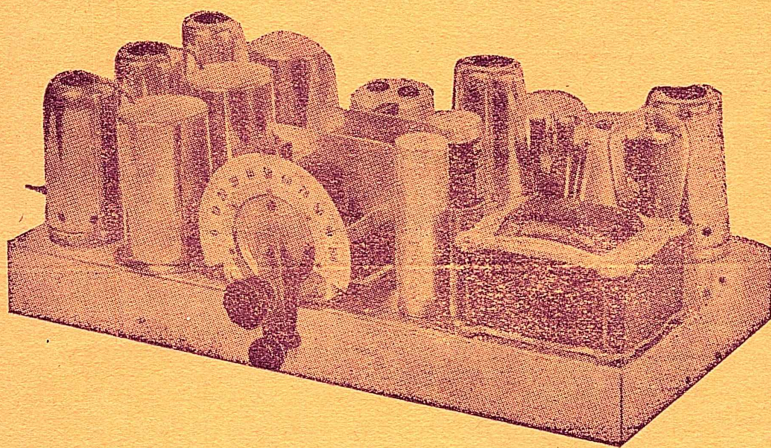
November 1, 1932.

BREAK-IN

L. B. SCOTT LTD.

Sole South Island Distributors for

KRIESLER SUPER-HET. KITS



Anyone can build it—The Super with the “kick.” £4/17/6 less N.Z.A.R.T. discount. Write for particulars. Everybody's doing it! Building up Kriesler Kits.

Cnr. MANCHESTER & WORCESTER STREETS
CHRISTCHURCH.

GIANT CLEARING SALE

(The "DU's Score")
Prizes won last month.

Mr V. Wilson (3DU),
Spreydon.

Mr A. Duffield (2DU),
Palmerston North.

Mercury Vapour 282 Tubes
Guaranteed. 6/6. 280, 5/-.

Chancery 2 gang Condensers, 16/6. .00035. Chancery 3 gang Condensers,

19/6. .00035. Mullard

Grid Leaks, .25, .5, 1, 2, 3

4 meg., 6d. each. 45 volt

B Batteries, guaranteed,

12/6. Pifco, all-in-one meter

tests, H.T., L.T., mill. amps

and valves, 17/6. Used A

Batteries, 17/6. Webster

Amplifier, 2-210, 1-226-280
without valves £3/15/-.

Sangamo Output Trans-
former, push-pull 210, 12/6.

One only 6in. Magnavox

Speaker 245, 2,500 ohms,

15/- 500 watt Radiators,

5/6. Resin Core Solder

1lb 2/6. Philips 2,802 All-
Wave Radio-player, with

4 valves, S.G., Pentode,
with trickle charger, £10.

ELECTRIC AND GENERAL IMPORT CO.

211 CASHEL STREET, Opp. N.Z. FARMERS.
